ELECTRON BEAM APPARATUS AND METHOD OF MANUFACTURING SEMICONDUCTOR DEVICE USING THE APPARATUS

ABSTRACT OF THE DISCLOSURE

The present invention provides an electron beam apparatus for irradiating a sample with primary electron beams to detect secondary electron beams generated from a surface of the sample by the irradiation for evaluating the sample surface. In the electron beam apparatus, an electron gun has a cathode for emitting primary electron beams. The cathode includes a plurality of emitters for emitting primary electron beams, arranged apart from one another on a circle centered at an optical axis of a primary electro-optical system. The plurality of emitters are arranged such that when the plurality of emitters are projected onto a straight line parallel with a direction in which the primary electron beams are scanned, resulting points on the straight line are spaced at equal intervals.